

TABLE B-2
PHYSICAL AND CHEMICAL PROPERTIES OF GB, VX, AND SULFUR MUSTARD¹

Parameter	Units	GB	VX	Sulfur Mustard
Molecular weight (MW)	g/mole	140.09	267.37	159.07
Melting point of chemical (T _m)	K	216.15	323.15	286.5
Vapor pressure (Vp)	atm	2.9	7.0E-04	0.09
Solubility (S)	mg/L	0	3.0E+04	0.684
Henry's Law constant (H)	atm·m ³ /mole	4.9E-07	2.4E-10	2.2E-05
Diffusivity of COPC in air (D _a)	cm ² /s	0.0693	0.0449	0.0636
Diffusivity of COPC in water (D _w)	cm ² /s	8.03E-06	5.2E-06	7.37E-06
Octanol-water partition coefficient (K _{ow})	Unitless	5.25	123.03	23.44
Soil organic carbon-water partition coefficient (K _{oc})	mL water/g soil	5.159	60.423	16.581
Soil-water partition coefficient (K _d _s)	cm ³ water/g soil	3.2E-02	7.6E-01	1.41E-01
Suspended sediments-surface water partition coefficient (K _d _{sw})	L water/kg suspended sediment	2.4E-01	5.7	1.1
Bed sediment/sediment pore water partition coefficient (K _d _{bs})	cm ³ water/g bottom sediment	1.3E-01	3.0	5.8E-01
COPC loss constant caused by abiotic and biotic degradation (k _{sg})	Yr ⁻¹	NA	NA	NA
Fraction of COPC air concentration in vapor phase (F _v)	Unitless	1.0	1.0	1
Air-to-plant biotransfer factor (B _v)	Unitless	1.7	9.9E+04	1.8E-01
Plant-soil bioconcentration factor (Br)	Unitless	14.85	2.4	6.25

Notes:

¹ Tetra Tech (2002a)

atm	Atmospheres
cm	Centimeter
COPC	Compound of potential concern
DW	Dry weight
FW	Fresh weight
g	Gram
GB	Isopropyl methylphosphonofluoride
K	Kelvin
kg	Kilogram
L	Liter
m	Meter
mg	Milligram
mL	Milliliter
NA	Not applicable
s	Second
VX	O-ethyl-S-[2-diisopropylaminoethyl] methylphosphonothiolate
yr	Year